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3.0 Conformance to Top-Level Safety Standards and Principles

The Emergency Plan ensures that emergency response requirements are considered throughout the planning and design process. Emergency drills and exercises are performed to evaluate the emergency plans and RPP-WTP staff response to offnormal conditions. The exercise program includes coordination with Hanford Site, state, and local emergency response organizations. The Project will participate in Hanford Site exercises and drills for other facilities as invited.

The Emergency Plan is submitted to support the request for an operating authorization. Chapter 9.0, “Emergency Management”, of the PSAR will address emergency preparedness as required to support the construction authorization request. Procedures developed by the RPP-WTP construction manager implement state and federal emergency preparedness requirements for hazardous situations that may arise during construction.

Additional information on the Emergency Plan is provided in ISMP Section 3.10, “Emergency Preparedness”.

3.3.1.8 Other Information

Other documents generated by the regulator or BNI may become part of the authorization basis for the Project. This includes correspondence concerning the safety aspects of the facility design, construction, operation, and plans for deactivation. Those portions specified in Appendix E of the Part A Hazard Analysis Report (HAR) that constitute bounding or significant hazards or hazardous situations are considered to be part of the authorization basis. ~~It also includes the Employee Concerns Program.~~

3.3.2 Control of the Authorization Basis

The authorization basis for RPP-WTP is considered as an element of the technical baseline for the facility. Changes to the technical baseline are managed by a configuration management program. For further information concerning configuration management see ISMP Sections 1.3.16 and 5.3, “Configuration Management”.

3.3.3 Changes to the Authorization Basis

Changes to the authorization basis include changes to the facility design and administrative controls (e.g., procedures, programs, plans, or management processes) that are described in the authorization basis or are relied on to ensure conformance to the authorization basis. Changes to the authorization basis are managed by a configuration management program discussed in ISMP Sections 1.3.16 and 5.3, “Configuration Management”. As described in these sections, the change management program includes the use of qualified personnel, procedures developed and approved under the Project procedure process, and implementation under the approved QAP.

By 10 CFR 830.120(b)(3), a contractor may, at any time, make changes to the approved QAP so long as the QAP, as changed, will continue to satisfy the requirements of 10 CFR 830.120. For the Project the commitment has been made that changes to a previously approved QAP will be submitted to the DOE for review and approval 30 days prior to the implementation of the subject changes. Annual updates to the QAP must identify the changes, the pages affected, the reason for the changes, and the basis for concluding that the revised QAP continues to satisfy the requirements of 10 CFR 830.120. These annual updates are also subject to the 30-day prior review by the DOE.

7.0 Regulatory Interfaces

BNI participates in information exchanges with the environmental agencies through routine Permitting Task meetings and workshops. Ecology and the DOH are regular participants in these meetings along with DOE. BNI maintains communication with the regulatory agencies through these meetings, occasional technical meetings on specific topics, and by numerous discussions either in person or by telephone to exchange additional information.

7.2 Occupational Health and Safety Interface

~~The Occupational Safety and Health Administration (OSHA) regulates the RPP-WTP with respect to nonradiological safety and health protection.~~ BNI complies with all applicable federal, state, and local safety and health regulations, ~~including those of the Washington Industrial Safety and Health Administration (WISHA) and the Occupational Safety and Health Administration (OSHA) to ensure occupational health and safety for RPP-WTP workers.~~ The project occupational safety and health program is regulated by the US Department of Energy (DOE).

~~The DOE has drafted a memorandum of understanding with the OSHA for the DOE to provide onsite observation of OSHA compliance similar to that conducted by the U.S. Nuclear Regulatory Commission (NRC) at nuclear reactors. BNI responds to observations provided by the DOE to both the OSHA and the DOE. In addition, any responses to OSHA inquiries are sent to both entities.~~

BNI ensures non-radiological safety and health (i.e., occupational health and safety) compliance with ~~all applicable~~ regulations by the design, testing, and maintenance of structures, systems, and components and through administrative controls to address occupational health and safety hazards. The identification and mitigation of occupational health and safety hazards will occur through application of the RPP-WTP Project non-radiological worker health and safety program process and, for hazardous materials above threshold quantities, compliance with the Process Safety Management (PSM) regulation found in 29 CFR 1910.119, as discussed in ISMP Section 5.1, "Process Safety Information". Identification of hazards includes the use of Material Safety Data Sheets and other methods as specified in 29 CFR 1910.1200, "Hazard communication". The Project maintains records of compliance activities as part of the protocols found in ISMP Chapter 8.0, "Document Control and Maintenance", to support ~~OSHA non-radiological safety and health~~ inspections.

~~The RPP-WTP contractor will have an OSHA-qualified Voluntary Protection Program. The RPP-WTP contractor will obtain STAR status during construction and operation. During operation, the North American Industry Classification (NAICS) code is 562211, "Hazardous Waste Treatment and Disposal", and during construction the NAICS code is 23499, "All Other Heavy Construction".~~

7.3 Safeguards and Security Interface

The BNFL preliminary assessment of the composition of candidate radioactive waste feeds indicated the quantities and types of special nuclear materials (SNM) to be handled at the RPP-WTP should be classified as Attractiveness Level E and Nuclear Material Safeguards Category IV. These are the lowest classification levels. Safeguards and security requirements for SNM appropriate for the RPP-WTP will be developed with DOE. These considerations will be consistent with the economic and strategic value of the materials present at the facility. Any conflicts that arise between considerations for safeguards and security and radiological, nuclear, and process safety will be resolved by discussions among BNI and the DOE.

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11.0 Organization Roles, Responsibilities, and Authorities

Area Project Managers

The safety-related roles, responsibilities, and authorities of the Area Project Managers, in their respective areas of responsibility, include:

- 1) Managing design and construction effort, in their respective area of responsibility.
- 2) Implementing management assessment policies, in their respective area of responsibility.
- 3) Implementing the contractor requirements of 10 CFR 820, “Procedural Rules for DOE Nuclear Activities”, in their respective area of responsibility.
- 4) Ensuring the development and implementation of the incident reporting program, in their respective area of responsibility.
- 5) ~~Approving~~ Ensuring approval by the Engineering Manager of final designs of Safety Design Class and Safety Design Significant features, in their respective area of responsibility.
- 6) Serving as principal interface with DOE on technical issues, in their respective area of responsibility.
- 7) Developing and managing the readiness review program to support commissioning, in their respective area of responsibility.

Engineering Manager

The Engineer Manager oversees the engineering design activities that are assigned to the DC&C contractor. The safety-related roles, responsibilities, and authorities of the Engineering Manager include:

- 1) Approving final designs of Safety Design Class and Safety Design Significant features
- ~~1)2)~~ Updating the treatment process, civil, architectural, structural, electrical, and mechanical design criteria
- ~~2)3)~~ Completing the civil, structural, support system, and facility designs including the incorporation of regulatory and quality commitments
- ~~3)4)~~ Preparing specifications for procurement of pre-purchased equipment
- ~~4)5)~~ Incorporating regulatory and quality commitments into the design, procurement, fabrication, inspection, and testing of systems and components
- ~~5)6)~~ Designing measures to facilitate performance of Technical Safety Requirement (TSR) surveillances
- ~~6)7)~~ Designing features to implement the design requirements of 10 CFR 835 Occupational Radiation Protection including features for ensuring personnel exposure during operation is as low as reasonably achievable (ALARA)
- ~~7)8)~~ Selecting materials for fabrication and construction; defining methods for corrosion control; and specifying welding procedures, requirements for nondestructive examination, and codes and standards
- ~~8)9)~~ Designing fire prevention, detection, and suppression features in compliance with state and federal requirements

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- ~~9)~~10) Incorporating deactivation and decommissioning features into the facility design
- ~~10)~~11) Evaluating proposed changes to civil, structural, support system, and facility designs
- ~~11)~~12) Updating the process design specifications, process descriptions, basis of design documents
- ~~12)~~13) Completing the process design including the incorporation of regulatory and quality commitments
- ~~13)~~14) Developing and implementing the configuration management (CM) program to control the safety and design bases
- ~~14)~~15) Obtaining documentation defining the physical configuration of the facility and forwarding this documentation to the Project Administration and Controls Organization
- ~~15)~~16) Developing and implementing of CM program database

Construction Manager

The safety-related roles, responsibilities, and authorities of the Construction Manager include:

- 1) Implementing procedures and training to enhance construction safety
- 2) Providing input to the configuration management program including as-built information
- 3) Supporting the incident reporting system for construction-related incidents
- 4) Developing procedures for the handling of hazardous material during construction, including packaging, labeling, storage, and shipping practices
- 5) The packaging and manifesting of dangerous waste arising from construction activities
- 6) Interfacing with subcontractors on process safety management and ES&H matters
- 7) Incorporating regulatory and quality commitments of SSCs into the construction
- 8) Implementing the construction testing program to verify that SSCs meet acceptance testing requirements

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13.0 References

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- 62 FR 8693, “Record of Decision for the Tank Waste Remediation System, Hanford Site, Richland, Washington”, U.S. Department of Energy, *Federal Register*, Vol. 62, pp. 8693-8704.
- 10 CFR 20, “Standards for Protection Against Radiation”, *Code of Federal Regulations*, as amended.
- 10 CFR 820, “Procedural Rules for DOE Nuclear Activities”, *Code of Federal Regulations*, as amended.
- 10 CFR 830.120, “Quality Assurance Requirements”, *Code of Federal Regulations*, as amended.
- 10 CFR 835, “Occupational Radiation Protection”, *Code of Federal Regulations*, as amended.
- 10 CFR 1021.216, “Procurement, Financial Assistance, and Joint Ventures”, *Code of Federal Regulations*, as amended.
- 29 CFR 1910, “Occupational Safety and Health Standards”, *Code of Federal Regulations*, as amended.
- 40 CFR 68, “Chemical Accident Prevention Provisions”, *Code of Federal Regulations*, as amended.
- AIChE 1992, *Guidelines for Hazards Evaluation Procedures, Second Edition with Worked Examples*, Center for Chemical Process Safety, American Institute of Chemical Engineers, New York, New York.
- AIHA 1988, *Emergency Response Planning Guidelines*, American Industrial Hygiene Association, Akron, Ohio.
- ASME 1994, *Quality Assurance Requirements for Nuclear Facility Applications*, ASME NQA-1-1994 Edition, Part 1, American Society of Mechanical Engineers, Fairfield, New Jersey.
- BNFL 1997a, *Quality Assurance Program*, BNFL-5193-QAP-01, BNFL Inc., Richland Washington.
- BNFL 1997b, *Hazard Analysis Report*, BNFL-5193-HAR-01, ~~Revision 0~~, BNFL Inc., Richland, Washington
- BNFL 1997c, *Initial Safety Analysis Report*, BNFL-5193-ISA-01, ~~Revision 0 (submitted January 1998)~~, BNFL Inc, Richland, Washington.
- BNFL 1997d, *Safety Requirements Document*, BNFL-5193-SRD-01, ~~Revision 0~~, BNFL Inc., Richland, Washington. (Revision 2 issued December 1998).
- BNFL 1997e, *Radiological and Nuclear Dose Standards for Facility and Co-Located Worker*, BNFL Inc., Richland, Washington.
- BNFL 1998a, *Deactivation Plan*, BNFL-5193-DP-01, Draft, BNFL Inc., Richland, Washington.
- BNFL 1998b, *Integrated Master Plan*, BNFL-5193-IMP-01, Revision 1, BNFL Inc., Richland, Washington.
- BNFL 1998c, *Quality Assurance Program and Implementation Plan*, BNFL-5193-QAP-01, ~~Revision 5~~, BNFL Inc., Richland, Washington.